

also have a discussion on underlying hypotheses relating to the types of plants and the growth patterns that are likely to be associated with induced resistance against herbivores. The discussion then extends to the relationship between the extent and nature of the damage and the possible mechanism for induced resistance. Evidence for these phenomena having an influence on populations of herbivorous arthropods is tabulated, concluding with affirmation of the need for more studies at population and community levels, with longer-term experiments being employed. The next chapter is directed at the evolution of induced resistance, describing the evolutionary processes involved and how these can exploit variability in induction. An obvious advantage in induced defence is its relatively low metabolic cost compared with continuous and constitutive defence, but this issue is again debated critically with numerous examples of key studies, and not excluding other hypotheses that bear on the subject. The final chapter is devoted to prospects for using induced resistance in agriculture. Such usage would be advantageous in agricultural crop protection for all the reasons that have allowed these mechanisms to evolve so successfully, not least the low cost on plant metabolism. In addition, 'switching on' plant defences would help to conserve such systems, thereby avoiding unnecessary deployment which could promote the onset of resistance by herbivores. Although relating to prospects for the future, this final chapter is typical of the others, full of extremely valuable information and, as well as exemplifications in discussion, there is included a table providing examples of competition between individuals of the same and different species where induced defence is involved, and where the host is an agricultural crop. This book rightly recommends that, whatever approaches to crop protection are adopted, we must at least understand such important processes as those induced in plants by herbivores against further damage.

**John A. Pickett**

**Chlorinated organic micropollutants.** ed. R. E. Hester & R. M. Harrison, Royal Society of Chemistry, Cambridge, 1996, 184 pp., price UK£17.50.  
ISBN 0-85404-225-3

This is the sixth of a series entitled *Issues in Environmental Science and Technology*. It contains nine chapters, each written as an up-to-date review of some aspect of environmental contamination by chlorinated organic compounds. The emphasis is on their environmental chemistry. Some aspects of environmental toxicology are also given, but this, in the main, is superficial and incomplete. The compounds considered include PCBs, PCDDs, PCDFs, and some organochlorine pesticides.

Two chapters are concerned with the environmental fate of PCBs, PCDDs, and PCDFs, one of which deals in some detail with atmospheric chemistry. One chapter focuses on human exposure to PCDDs and PCDFs. Another deals with biological uptake and transfer. A chapter is devoted to the very large subject of chlorinated pesticides; inevitably it is very superficial and incomplete, especially with regard to ecotoxicological aspects. Another presents an overview of the complexities of the ecotoxicology of chlorinated aromatic hydrocarbons in as much detail as limited space will allow. The detailed study of the fate of PCBs in the Great Lakes of N. America is presented as an integrated case study in one of the best chapters of the book. Many data are logically presented in a small space with the aid of some very useful figures. There is a good concise account of human toxicology covering much of the literature, but not dealing in any depth with mechanistic aspects.

This is a very useful text for people working in the field, giving up-to-date reviews of the environmental chemistry of these important pollutants. It should also be of some value to advanced students specialising in this area.

**C. H. Walker**